

1160 W. Orange Grove Ave., Arcadia, California, U.S.A. 91006

© Copyright 1968

LIFE HISTORY NOTES ON
SATYRIUM SYLVINUS DRYOPE EDWARDS
(LYCAENIDAE: THECLINAE)

THOMAS C. EMMEL and JOHN F. EMMEL

Department of Zoology, University of Florida, Gainesville 32601
and University of California Medical School, San Francisco

THE HAIRSTREAK *Satyrrium sylvinus dryope* Edwards is distributed through the coast ranges from the San Francisco Bay area south to Los Angeles in California. *S. s. dryope* has been considered a species separate from *sylvinus* as late as Clench (1961); however, the maculation and genitalia of the two entities are essentially identical, with the only difference being that *dryope* lacks the tail on the secondaries present in typical *sylvinus* (P. A. Opler, *in litt.*; J. F. Emmel, *in press*). Its foodplant and life history have not been described (Clench, 1961).

The present paper presents a description of the first-instar larva to make this information available for future comparative studies of the larvae of the Theclinae, currently underway by several authorities. The first-instar setal patterns seem to offer the best differentiating characters among the hairstreak larvae and doubtless will prove useful to ascertaining evolutionary relationships when enough life histories are known.

GENERAL BIOLOGY AND FOODPLANT

Satyrrium sylvinus dryope is single-brooded, with adults appearing in late May and June. The specific observations (during 1964-67) in this note are based on the *dryope* populations at the Page Mill Road rock quarry on the Stanford University campus, near Los Altos, Santa Clara County, and were made throughout the flight season as well as at other times of the year.

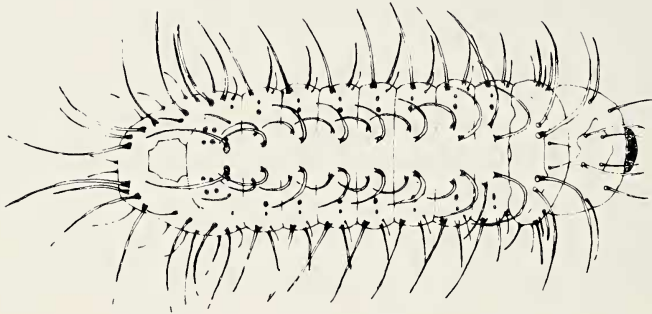
**Fig. 1****Fig. 2**

Fig.1. The first-instar larva of *Satyrium sylvinus dryope* Edwards, dorsal view, with head and prothoracic shield to right and anal shield at left.

Fig. 2. Lateral view of the seventh body segment, showing setal arrangement. Note the supraspiracular round "gland" body.

The host plants are willows (*Salix*). Courtship of the adults takes place around the willows bordering a wet seep. Eggs are laid singly in willow bark crevices, especially at the junctions of branches, in late May to early July. The species overwinters in the egg stage. Larvae hatch the following March. The first two instars feed by cutting a depression in the willow leaf surface epidermis, rather than by cutting into the edge of the leaf.

FIRST INSTAR LARVA

The body is flattened in the usual lycaenid shape. The spine or setal arrangement is as shown in Figures 1 and 2.

The overall ground color is a uniform gray, with small dark brown elevated "dots" uniformly distributed over the entire body surface. On the head-shield segment, a distinctly-shaped yellowish-green area is outlined in brown. This head-shield area lacks brown dots within it, but four spines protrude forward from its margins.

On the anal-shield segment, there is a differently but distinctly shaped yellowish-green area that is outlined in brown; this area also lacks brown dots and it lacks spines.

The head is a dark brownish black in color and is kept hidden while the larva is feeding.

The spines on all segments of the body and head are translucent, with a dark gray ring at the base of each.

Each body segment has a translucent, dark gray, raised "gland"-like body or organ a short distance above the spiracle. On the anal shield, near the anterior end, there are ten of these dark gray "glands" arranged as shown in Figure 1. Their function, if any, and homology with structures in the supraspiracular position or elsewhere on other lycaenid larvae, remain unknown (e.g., see Clench, 1962).

LITERATURE CITED

- CLENCH, HARRY K., 1961. Tribe Theclini. In Ehrlich, P. R. and A. H. Ehrlich, *How to Know the Butterflies*. Wm. C. Brown Co., Dubuque, Iowa. 262 pp.
- CLENCH, HARRY K., 1962. *Panthiades m-album* (Lycaenidae): Remarks on its early stages and on its occurrence in Pennsylvania. *Journ. Lepid. Soc.*, 15: 226-232.
- EMMEL, J. F., in press. The genus *Satyrium*. In Howe, William H., edit., *The Butterflies of North America*. Doubleday & Co., New York.